## ABSTRACT

A method for producing a semiconductor wafer (1) with one or more micro-mirrors (5) formed in a membrane layer (2) which is supported on a handle layer (3) with a buried oxide layer (6) between the membrane and handle layers (2,3) which avoids rupturing of tethers (7) which support the micro-mirrors (5) in the membrane layer (2) and also avoids bowing of the micro-mirrors (5). After trenches (14) are formed in the membrane layer (2) for defining the micro-mirrors (5) and the tethers (7), and prior to forming of through bores (9) through the handle layer (3) to the micro-mirrors (5), a support layer (20) of oxide is deposited on the exposed surface (12) of the membrane layer (2) over the micro-mirrors (5) and the tethers (7) and is back filled into the trenches (14) for supporting bridging portions (16) of the buried oxide layer (6). The buried oxide layer (6) acts as an etch stop layer for the through bores (9), and stresses which are induced in exposed portions (19) of the buried oxide layer (6) exposed by the through bores (9) during etching of the through bores (9) are counteracted by the support layer (20) which prevents rupturing of the bridging portions (16), thereby preventing rupturing of the tethers (7). By counteracting the stresses induced in the exposed portions (19) of the buried oxide layer (6) bowing of the exposed portions (19) is avoided and thus bowing of the micro-mirrors (5) is also avoided.

Figs. 1 and 5 to accompany the abstract.